

ABSTRACT OF THE DISCLOSURE

The present invention provides a method and apparatus for accelerated handwritten symbol recognition in a pen based tablet computer. In one embodiment, handwritten symbols are translated into machine readable characters using special purpose hardware. In one embodiment, the special purpose hardware is a recognition processing unit (RPU) which performs feature extraction and recognition. A user inputs the handwritten symbols and software recognition engine preprocesses the input to a reduced form. The data from the preprocessor is sent to the RPU which performs feature extraction and recognition. In one embodiment, the RPU has memory and the RPU operates on data in its memory. In one embodiment, the RPU uses a hidden Markov model (HMM) as a finite state machine that assigns probabilities to a symbol state based on the preprocessed data from the handwritten symbol. In another embodiment, the RPU recognizes collections of symbols, termed "wordlets," in addition to individual symbols.